



## Predictions Issue

This is a very important issue of the Private Practice Doctor newsletter. If you are going to succeed in the practice of medicine, you simply must anticipate the coming trends in medicine. Gone are the days where you could wait for common acceptance of new drugs, new therapies and new technology. The private practice doctor must be on the cutting edge of each and every technology. From patient tech to doctor tech to billing tech and records interaction, you must be aware of everything going on around you. In this issue we look forward to what you will see and must keep up with in several areas for 2018.

I have researched scientific sites, financial sites and healthcare sites for news about the coming year. I have tried to be selective so that you will not be inundated with too much information. But I want to give you enough information so that if you are interested in any of topics below, you can do additional research on your own. With that in mind let's begin.

### *The Bill Comes Due*

Over the next 10 years, \$17 billion (that's with a B) of patents for big name drugs will come to an end. This is very, very important for your patients as consumers.

Pharmaceutical companies are going to have to make up their losses in one of two ways.

The first, harder way, is by developing new drugs (or rearranging the molecular structure of old ones). The second way is growth through mergers and acquisitions. As mentioned, the first way is more cumbersome, and is very expensive and time consuming. The second is a lot easier, so expect more drug companies to buy out smaller companies, particularly those with drugs in the pipelines or with long-term patents still available.



But there is more going on as a result of expiring of patents. You are about to see an onslaught of generic medications. Still, remember the government responds to lobbyists and the pharmaceutical lobby is very powerful. Therefore, expect some twists and turns as more generics are released. Drug companies will most likely respond by trying to try to push over-the-counter versions of some of their medications. Think about the drugs that used to be prescription only that are now OTC. It was not long ago that proton pump inhibitors, such as Nexium and Prevacid and allergy medications, such as Claritin and Allegra were prescription only. It is important to realize that since over-the-counter drugs are not typically covered by insurance, individuals who have health coverage could end up paying more out of pocket.

*And More Conglomeration*

In our PPD newsletters we have already reported on the massive conglomeration and mergers of pharmaceutical companies, health insurers, pharmacies and hospital systems. Expect this trend to continue even beyond the pharmaceutical industry.



As if a validation of this prediction, it should be noted that two of the largest healthcare systems are coming together to create the largest healthcare system in the country. Announced just days before this writing, hospital operators Ascension Health out of St. Louis and Providence St. Joseph Health out of Washington are in talks to merge and create the nation's largest hospital chain. They would operate 191 hospitals and many clinics, and accrue annual revenues of \$45 billion dollars. The Hospital Corporation of America (HCA) with 177 hospitals and \$41.5 billion of revenue will be the second largest health system. Are we headed to a single payer system by default?

### *It's Getting Really Tight In Here*

If you think payors are tight now, you have not seen anything yet. As you are very aware, insurance companies have created plans and policies to narrow networks and bring down costs. Whether you know it or not, Anthem has already stopped paying for "unnecessary ER visits or imaging services" at hospitals. They are no longer reimbursing hospital outpatient MRI and CT scans without pre-certification. This directly acts against those hospitals trying to improve their bottom line with more imaging. Expect more of the same price tightening with laboratory, other imaging and low risk surgical procedures. I am sure all of you

are receiving more pre-certifications requests which may involve you being interviewed about your medical decision by an insurance company low level bureaucrat.



Expect more! Many of us, who still take insurance, are going to have to decide if our practices can afford even more bureaucratic controls. With Medicare changing to MIPS and MACRA expect your headache to continue. **WARNING: READ THE NEXT FEW SENTENCES AT YOUR OWN RISK, YOUR HEAD MAY EXPLODE!!** MACRA is the Medicare Access and CHIP Reauthorization ACT and it replaces the current reimbursement schedule of Medicare with a new pay for performance program. MACRA combines parts of the Physician Quality Reporting System (PQRS), Value-based Payment Modifier (VBM), and the Medicare Electronic Health Record (EHR) incentive program into one single program called the Merit-based Incentive Payment System, or “MIPS”. Is your head spinning? At the end of this newsletter is a previous PPD newsletter written to explain MACRA.

### *Molecular Engineering and Gene Editing*

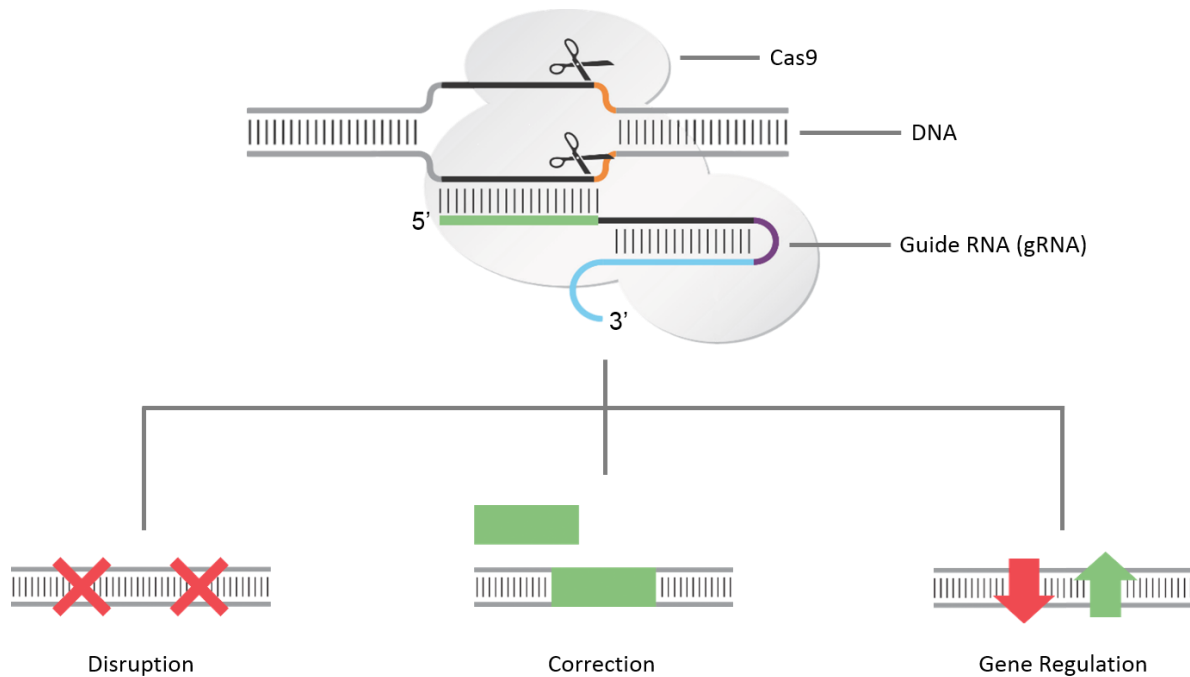
There has really been a leap forward in molecular engineering and gene editing. If you don't know about CRISPR see our previous newsletters. Briefly, CRISPR technology allows genetic material to be edited in every cell and can eliminate diseases such as Cystic Fibrosis and Hypertrophic Cardiomyopathy. It can also be

used to individualize cancer therapy. Evidently the T cells can be programmed to attack cancer cells. This is an amazing breakthrough with a phenomenal ability to be misused. Have you heard of designer babies? Have you heard of “The Island of Dr. Moreau” with half human and half animal hybrids? I can see you shaking your head and chuckling, after all who would create, let’s say a human-pig? Well the Salk Institute did!

*Scientists have created a human-pig hybrid in a milestone study that raises the prospect of being able to grow human organs inside animals for use in transplants.*

*It marks the first time that embryos combining two large, distantly-related species have been produced. The creation of this so-called chimera – named after the cross-species beast of Greek mythology – has been hailed as a significant first step towards generating human hearts, livers and kidneys from scratch.*

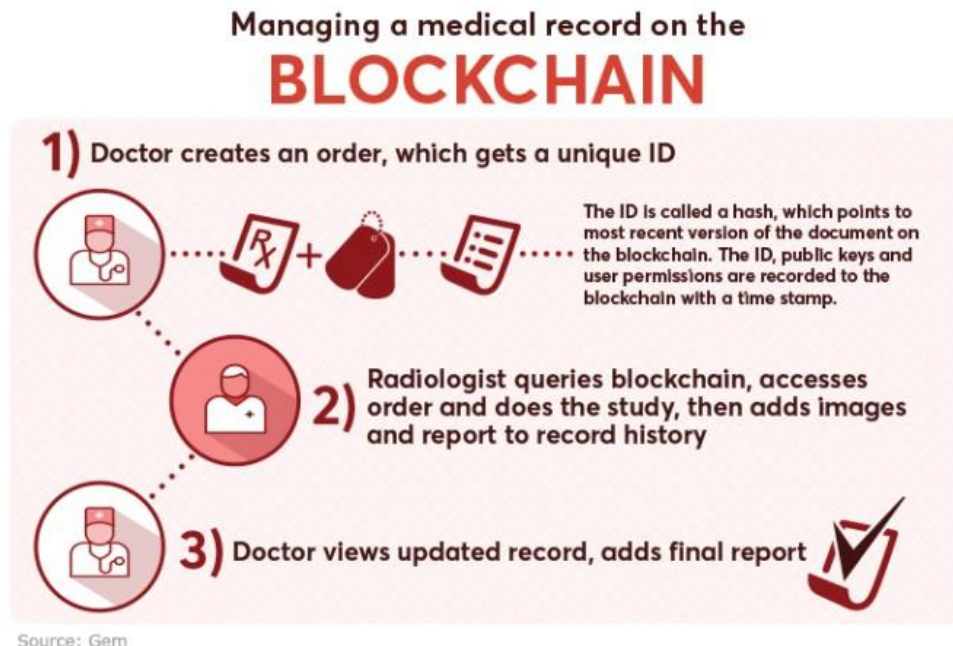
*Juan Carlos Izpisua Belmonte, who led the work on the part-pig, part-human embryos at the Salk Institute for Biological Studies in La Jolla, California, said: “The ultimate goal is to grow functional and transplantable tissue or organs, but we are far away from that. This is an important first step.”*



This CRISPR technology can be life saving but life destroying as well. Who will regulate it?

## Blockchain Is Much Bigger Than Bitcoin

You have heard of Bitcoin, the bubble stock now soaring to astronomical highs and being compared to the 1600's Tulip-mania, the world's largest stock bubble. While the stock maybe playing havoc with the financial system, the underlying technology behind it is truly amazing for security. This technology is called Blockchain, a topic that was covered in a previous PPD newsletter and is reprinted at the end of this article. Blockchains are large databases that accept input from any user and the database can only be changed when there is group consensus. Everything is imprinted with a time stamp.



This makes it amazingly difficult to hack or disrupt because each block is very difficult to modify. According to experts, this will put patients in control of their data. It is predicted that blockchain technology will provide the missing pieces for an integrated and high-value system of digital health records.

## New Players

Watch for new players in the healthcare system. Amazon and CVS are trying to merge in the biggest healthcare deal ever. The idea of Amazon getting into the prescription drug business has sent tremors through Wall Street. Some experts

are predicting even a larger footprint for Amazon, since the company usually goes in big. Some are predicting that the company could attempt to provide comprehensive services to patients, doctors and others. They could enter offering virtual doctor consults or even use Amazon echo, its voice controlled smart device, for health care applications.



Once Amazon is in the game, can Google and other tech companies be far behind? Tech is getting integrated deeply into healthcare as we speak.

Another example of tech and healthcare is CVS Health starting to integrate delivery into their prescription drug business. The brick and mortar business is not growing, so CVS Health will start delivering prescriptions to customers' doors for free in early 2018 to help maintain its dominance. This sounds very Amazonian.



### *Artificial Intelligence*

I am sure you have heard the rumblings about artificial intelligence in the news almost every day. We frequently hear how it will displace workers and markedly

affect the economy. It is about to make its entrance into the healthcare arena. Though technology for healthcare is in its infancy, you can easily find just the beginning in healthcare apps in any apple or google store. Mobile health care funding reached \$1.3 billion last year and will exceed \$100 billion by 2022. The FDA is making it easier for the apps to reach market; expect your patients to bring in data from the apps. I am already getting heart rate data during lightheadedness and pre-syncope. Mobile app developers are working to design algorithms that not only capture patient data, but also use that data to provide insights that can be acted on.



*“For instance, a doctor may recommend a patient to install a mobile app that collects information about heart rate, blood pressure, or even daily nutrition and exercise. Based on the information feed into the mobile app, the program analyzes, compute your progress, and make the necessary inductions/recommendations, while also sending the data to your doctor for further advice.”*

Like we said, this technology is just beginning. Expect, in the near future, for mobile apps to be able to measure various chemicals and adjust medications

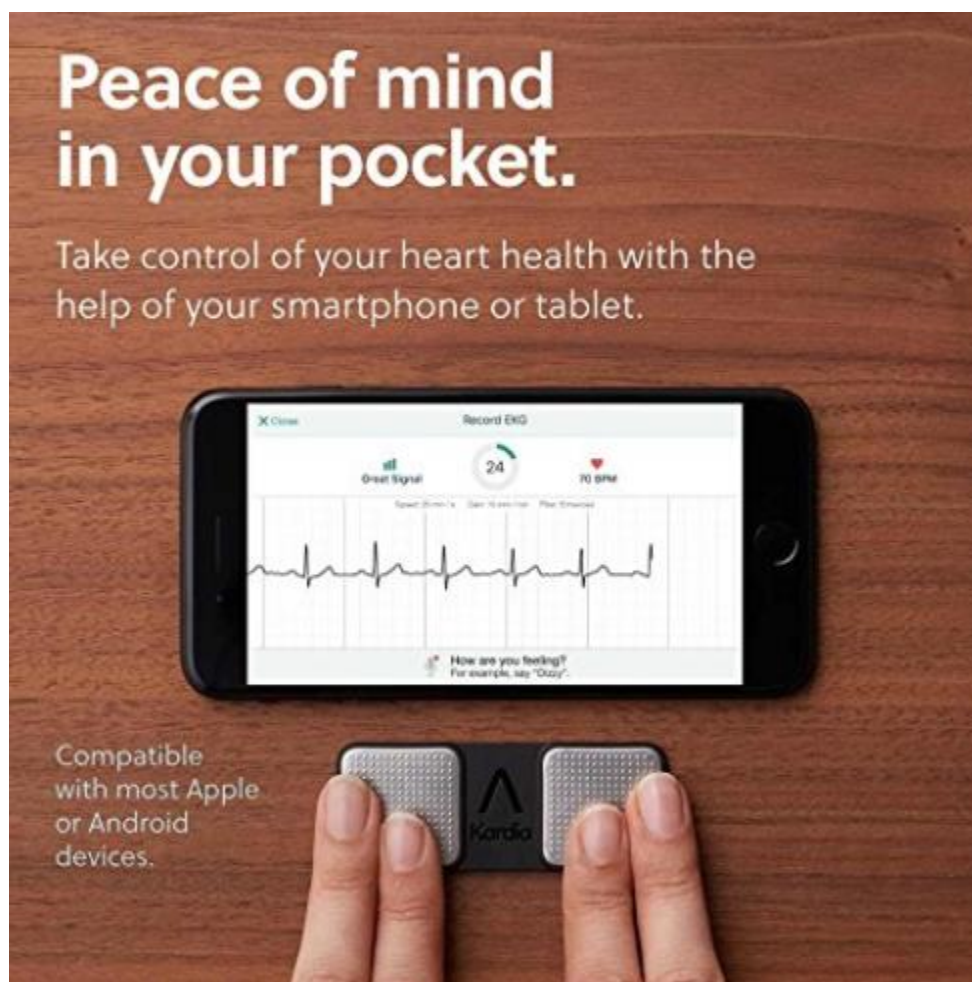


moment to moment, or to monitor for markers of disease and adjust therapy accordingly.

### *An Actual Example*

Speaking of Amazon and mobile health, check out this app now available on Amazon. I saw a commercial on TV for this one.

<https://www.amazon.com/Alivecor%C2%AE-Wireless-Captures-Detection-Smartphones/dp/B01A4W8AUK>



The advertisement says Kardia captures a medical-grade EKG in 30 seconds anywhere and anytime. It can detect atrial fibrillation or normal heart rhythm in

seconds. EKGs can be emailed to yourself or your doctor. The system works with smartphones, tablets on Android or iOS.

### *A Special Time and A Special Place For You*

Wow, there is so much going on, but there is more. You are very special people to us. And we want you to know it. Private Practice Doctors are some of the most amazing and caring people in the world. You deserve the recognition! As a result, PPD is organizing a large get together of all the Private Practice Doctors around. We want you to:

- ❖ Meet other private practice doctors and share your ideas and information.
- ❖ Support and refer to each other
- ❖ Bring your wife, husband or significant other
- ❖ Have the best time!

Therefore, in February we are planning a great big thank with a wonderful cocktail party! Keep a look out for this special event!



## **ADDENDUM:**

### **PPD 2016 Newsletter on MACRA and MIPS**

You may not know it yet, but a governmental tsunami is approaching; there is no early warning system. Its intent is to wipe out private practice and I would

venture to say that most of us are totally unaware of it. MACRA/HR 2 was passed into law and your world will never be the same. If you do nothing else, either read about this on your own or simply read this summary and tear out your remaining hair.

Are you a private practice physician? Do you take Medicare? If you answered yes, you must read the following. If you answered no, just smile and get down on your knees and say thank you. For those of us who answered yes, we are in major league trouble. As usual, bureaucrats hide behind acronyms so here is a quick hit list for you of the acronyms used in the rest of this summary:

- ABIM – American Board of Internal Medicine
- ACO – Accountable Care Organization
- APM – Alternative Payment Model
- HR2 – Congress’s Name for Medicare Access and Children’s Health Insurance Program Reauthorization Act
- MIPS – Merit-Based Incentive Payment System
- MACRA - Medicare Access and CHIP Reauthorization Act MIPS- Merit Based Incentive System
- SGR – Sustainable Growth Rate
- PCMH – Patient Centered Medical Home
- WAS – We Are Screwed

Did you know that in 2019 all Medicare doctors will be required to participate in the MIPS (Merit-Based Incentive Payment System) or an APM (alternative payment model)? I thought you didn’t. You have no choice! You will need to make a choice between these two lovely systems in order to receive Medicare reimbursement for your services. If you choose to participate in MIPS, your reimbursement will be adjusted up or down based on performance measures in 4 weighted categories of quality, resource use, meaningful use of electronic health records, and clinical improvement. In fact, you are going to be graded on a score of 1-100 depending on how well you check your boxes on your computer.

Your pay will increase or decrease by the following amounts depending on your score:

- plus/minus 4% in 2019;

- plus/minus 5% in 2020;
- plus/minus 7% in 2021; and
- plus/minus 9% starting in 2022

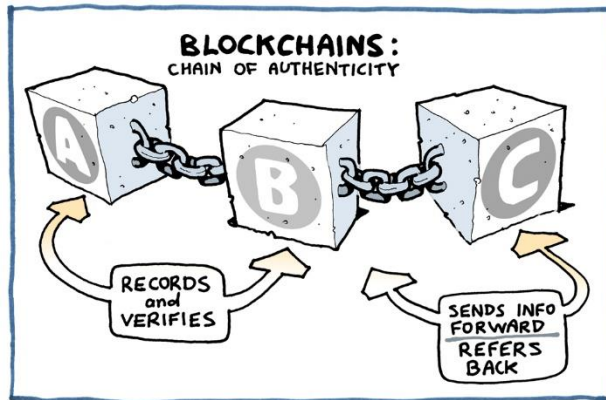
I see by the look on your face that you don't like that very much. In fact, you look downright angry. So let's look at the other option - the APM. To qualify for APM, you need to be an ACO, PCMH or use condition-specific bundled payments. According to legislation, your practice needs to accept financial risk for the quality and effectiveness of care. If you decide to go this route you are at direct financial risk and may have to re-pay Medicare if you don't meet the savings targets established by the government. Mmmm, I see you are still not happy.

It is estimated that almost one half of all physicians will be penalized and 87% of solo practitioners will be on the losing end. Have a small group, 70% of you will be losers

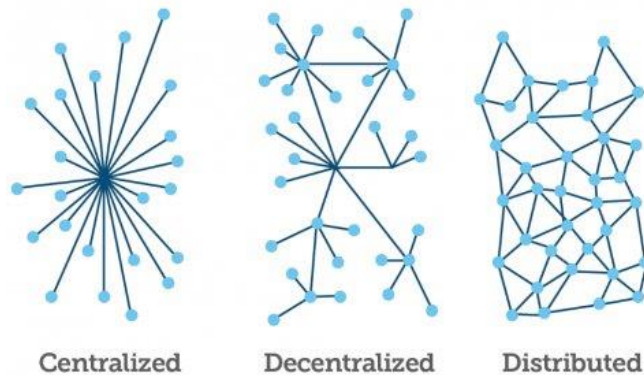
### **May 2017 Blockchain Newsletter**

I'll bet most of you have never heard the word "Blockchain". If not, I strongly suggest you familiarize yourself with the concepts of blockchain because it will probably change the way we handle medical information in the near future.

For almost all of you, let me be the first to try to explain it. For the few of you who may know it, let me familiarize you. To entice you, let me tell you that the large investment and banking firms are very knowledgeable about blockchain and, according to Goldman Sachs, the blockchain technology "has the potential to redefine transactions and can change everything". JP Morgan last month announced it was launching a trial project with a blockchain start-up.



So what on earth is this new stepping stone toward the future? Before I explain, let me set out the problem. It seems that everyone is eagerly awaiting a time when the magic of digital records finally lives up to the potential of providing easy sharing and interchangeability. This benefit has been long promised but has not yet come to fruition. Attempts to create a pristine world of universal clean file sharing has turned into a cumbersome process using up costly resources in both time and money. Secretary of HHS Tom Price, M.D. has said, “we’ve turned physicians into data entry clerks”. Doctors are spending more time typing than talking to patients...and it’s wearing on them. The physician burnout rated jumped from 45% in 2011 to 54% in 2014. What is the number one thing requested by physicians to change?... Streamlining the EHR process.



Blockchains are large databases or ledgers like a spreadsheet. The difference is that these databases accept input from many users AND the database can only be changed when there is consensus within the group. When someone wants to add to the data, participants in the network, all of whom have copies of the existing blockchain, run algorithms to evaluate and verify the proposed change. If a majority of the nodes agree that the transaction is valid (that the information matches up with the blockchain's history, then new information is approved and a new block is added to the chain. There is no central authority. There is no central figure acting as a gatekeeper to data. But there is only one shared ledger or database that is spread across a network of synchronized, replicated databases available to anyone with access.

Once data is accepted by the group and recorded in the block it cannot be changed and a time stamp is imprinted and a link is placed to the previous block. These blockchains are very resistant to modification of data. This is because once recorded, the data in a block cannot be altered retroactively. Think of blockchain as a read only CD collection that everyone has that keeps getting new additions.

So you ask, how does this affect healthcare? Obviously, the first idea is medical records. Blockchain could immediately provide data interoperability for those with access to the blockchains. At the same time there would be a dramatic increase in security. Remember, once the data is placed in the blockchain the data is secure and irrevocable. Hacking and entering malicious code is just about impossible without simultaneously hacking every other block in the chain's chronology.

Another entrée into the healthcare world would be in claims adjudication and billing. Up to 10% of healthcare costs are due to fraudulent billing practices, either from excessive billing or billing for non-performed services. Blockchain can automate the billing process, eliminating the administrative costs of verification and processing.



Blockchains could be potentially used for the drug supply chain. Currently, the pharmaceutical industry loses about \$200 billion dollars from counterfeit drugs around the world. About 30% of medications in developing countries are counterfeit. Blockchain could ensure the custody log of medications at each stage from synthesis through distribution.

Finally, blockchain could do wonders for cyber security. There were 450 health data breaches in 2016 alone. This affected 27 million individuals. We have all heard about instances where a hacker accesses records and ransoms the data back to the company whose data has been hacked. This data is called ransomware. Remember, it would be very difficult to simultaneously hack all ledgers or blocks in the chain. Major companies are currently working with blockchain-enabled solutions.

I hope this serves as a very brief introduction to blockchains.